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CENTRAL INTELLIGENCE AGENCY

REPORT NO. [REDACTED]

INFORMATION REPORT~~CONFIDENTIAL~~

25X1A

COUNTRY USSR

DATE DISTR. 8 Sep 1950

SUBJECT Test of Soviet Annular Ball Bearing

NO. OF PAGES 2

PLACE
ACQUIRED [REDACTED]

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DATE
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(LISTED BELOW)

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SUPPLEMENT TO
REPORT NO.

25X1X

below on a double row, internal self aligning ball bearing of Soviet Manufacture believed to have been produced at an unknown date in the number two bearing factory at Moscow, USSR. The bearing was acquired in Finland during 1950 and is believed to have been used in an automobile of Soviet manufacture. Because the bearing is very similar to the SKF #2206, it has been compared dimensionally with two examples of the American SKF bearing of that designation. The marking of the Soviet bearing is 2 GLZ.

1. The results of comparative measurements against comparable SKF bearings of American manufacture are as follows:

a. <u>Surface Roughness (Microinches)</u>	<u>2GLZ</u>	<u>No. 1</u>	<u>No. 2</u>
Outside Diameter-Outer Ring	12.5	12.0	13.0
" " Inner Ring	35.0	37.0	36.0
Outer surface-ball race	19.0	13.5	19.0
Bore of inner ring	28.0	20.0	19.5
Balls (range by several readings)	1.8 - 2.0	.9-1.1	1.85 -1.0

- 1/ Balls of the 2GLZ were somewhat scuffed and have small rust spots. The higher surface roughness readings are attributed to these imperfections.

b. <u>Wavometer Readings of Inner Races</u>	<u>2GLZ</u>	<u>No. 1</u>	<u>No. 2</u>
One race - High Band	12.0	14.0	21.0
One race - Low Band	4.0	2.4	2.2
Other race - High Band	12.0	13.0	16.0
Other race - Low Band	4.5	2.2	1.7

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c. Dimensional Measurements

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Outside Diameter (Standard 2.4409)

Ranges from 2/	2.4409	2.4407	2.4406
to.	2.4408	2.4406	2.4404

Bore Diameter (Standard 1.1811)

Ranges from 2/	1.1810	1.1808	1.1809
to.	1.1808	1.1807	1.1808

Inner Races - Eccentricity

Ranges from 2/	.00015	.00005	.00015
to.	.00065	.0002	.0002

Ball Size	5/16	5/16	5/16
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Ball Size (variation)	.0001	.00007	.00005
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Roundness of Balls	.000015	.000010	.000010
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Number of Balls in the Bearing	28	28	28
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d. Hardness Test

Outer face	63 1/2 RC	63 RC	63 1/2 RC 3/
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Inner face	64 RC	62 RC	63 RC
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e. Motor Test at 1800 RPM

Sound in Decibels	69	64	66
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2/ Where two readings are given they indicate the range, since absolute figures cannot always be specified when working with such small units.

3/ RC is an abbreviation of "Rockwell 'C' hardness number."

2. The evaluation of the Soviet 2GLZ bearing is as follows:

a. The Bearing meets Annular Bearing Engineer's Committee (ABEC) standards.

b. The bearing compares very well in all respects with the American examples with which it was measured.

3. A breakdown test under load and a chemical analysis of bearing 2GLZ are in progress. The results of this activity will be reported in an early report.

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